

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

A REDESCRIPTION OF *CLORIDA MAUIANA*
(BIGELOW), A STOMATOPOD CRUSTACEAN NEW
TO THE AMERICAN FAUNA

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Among the stomatopods in the collections of the Muséum National d'Histoire Naturelle, Paris (MNHNP), and the Allan Hancock Foundation, Los Angeles (AHF), are one specimen each of a small squillid identifiable with a species originally described from Hawaii, *Clorida mauiana* (Bigelow). The specimen from Paris was taken from Vanikoro Island, southwestern Pacific, a considerable but not altogether surprising range extension, but that in the Hancock collections originated from the Gulf of California, a considerable and very surprising range extension. These specimens and the previously unique holotype from the Smithsonian collections (USNM) form the basis for a needed redescription of the species.

I thank J. Forest, Muséum National d'Histoire Naturelle, Paris, and John S. Garth and Janet Haig, Allan Hancock Foundation, Los Angeles, for the loan of material. The illustrations were prepared by my wife Lilly. Terms used in the account have been explained elsewhere (Manning, 1969).

Clorida mauiana (Bigelow, 1931)

Figure 1

Squilla mauiana Bigelow, 1931: 177, fig. 10.—Manning, 1968a: 124 [listed].

Clorida mauiana.—Manning, 1968b: 5 [key].

Material: Puerto Escondido, Baja California, Mexico (west coast of Gulf of California); 25°48'10"N, 111°17'55"W; 14-18 fms (26-33 m); sand and coral; AHF Sta. 1097-40; 11 February 1940: 1♂ TL (total length) 17 mm (AHF).—Auau Channel, between Maui and Lanai

Islands, Hawaiian Islands; 28–43 fms (51–79 m); sand and gravel; *Albatross* Sta. 3876; 14 April 1902: holotype, 1 ♂ TL 21 mm (USNM 64906).—Vanikoro Islands, Santa Cruz Islands (11°36'S, 166°53'E); Quoy and Gaimard: 1 ♀ TL 27 mm (MNHNP).

Description: Eye (Fig. 1a, b) small, subtriangular, extending almost to or slightly beyond end of first segment of antennular peduncle. Stalk not dilated, width about 0.6 times eye length. Cornea broader than, and set almost transversely on, adjacent stalk. Corneal indices 385–425. Ocular scales fused medially, sloping posterolaterally.

Antennular peduncle short but more than half as long as carapace. Antennular processes visible lateral to rostral plate as slender, anteriorly-directed spines.

Antennal protopod with rounded projection proximally on inner margin of distal segment. Antennal peduncle extending beyond eye, proximal segment longer than distal. Antennal scale very small, about $\frac{1}{3}$ as long as carapace.

Rostral plate (Fig. 1a) with length and width subequal or length slightly greater, lateral margins converging on rounded apex. Median carina absent.

Carapace strongly narrowed anteriorly, lacking median and intermediate carinae. Short reflected marginal and lateral carinae present on posterolateral parts of carapace. Anterolateral angles of carapace unarmed.

Raptorial claw (Fig. 1c) slender, dactylus with 5 teeth. Outer margin of dactylus sinuate, with 2 obtuse lobes basally; proximal smaller. Dorsal ridge of carpus undivided, terminating in blunt tooth. Inferodistal angle on outer face of merus unarmed.

Mandibular palp absent. Two epipods present.

Exposed thoracic somites (Fig. 1d) lacking longitudinal carinae. Lateral process of fifth thoracic somite an anteroposteriorly compressed lobe, rounded in anterior view, inconspicuous in dorsal view. Small ventrolateral spine present on each side under lateral process of fifth somite. Lateral processes of sixth and seventh thoracic somites not bilobed, broadly rounded laterally, unarmed. Eighth thoracic somite with very low median prominence ventrally.

Abdomen broad (width at fifth somite slightly greater than carapace length), depressed, loosely-articulated, anterior 5 somites lacking submedian carinae. Anterior 4 somites with faint lateral and sinuous marginal carinae only, marginals set above margin. Fifth abdominal somite with laterals and marginals, and, between them, an oblique, curved carina. Sixth somite with low but distinct submedian, intermediate, and lateral carinae. Abdominal carinae spined as follows: submedian 6, intermediate 6, lateral 6, marginal 5 (on 1 side only in specimen from Vanikoro). Sixth somite with 1–3 small supplementary spinules on posterior margin between spines of submedian and intermediate carinae, and with ventrolateral spine anterior to articulation of each uropod.

Telson (Fig. 1e, f) inflated, broader than long, with 3 pairs of

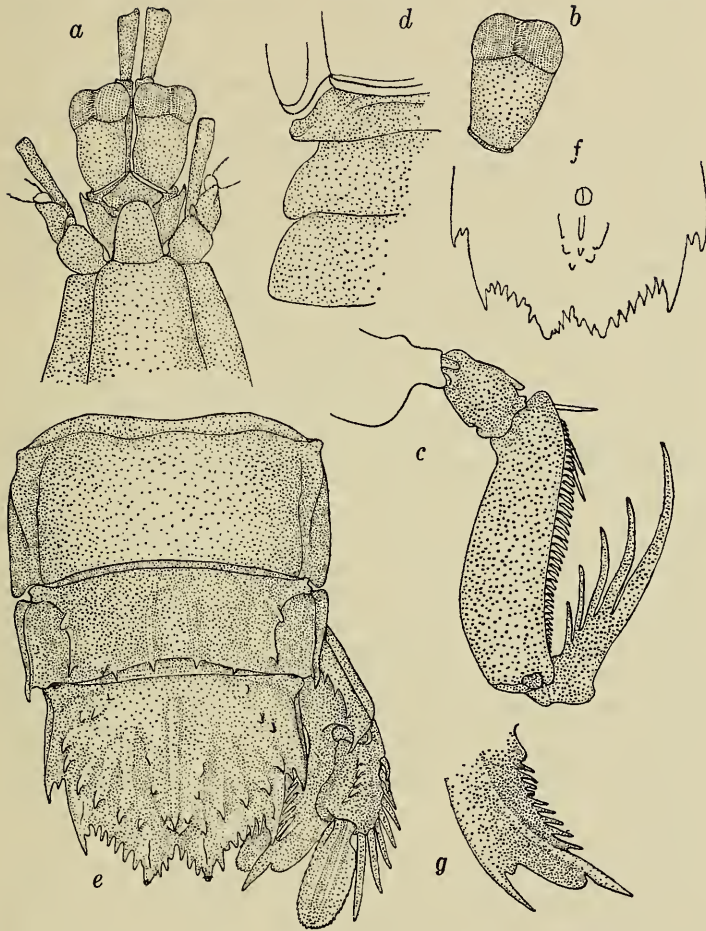


FIG. 1. *Clorida mauiana* (Bigelow), female, TL 27 mm: *a*, Anterior part of body; *b*, Eye; *c*, Carpus, propodus, and dactylus of claw; *d*, Lateral processes of fifth, sixth, and seventh thoracic somites; *e*, Posterior two abdominal somites, telson, and uropod; *f*, Telson, ventral view; *g*, Basal prolongation of uropod. (Setae omitted in all figures).

marginal teeth, submedians with movable apices. Prelateral lobes absent. Dorsal surface with posteriorly-spined median carina, and, on each side, a curved submarginal row of 5 sharp spines, each with short dorsal carina, lateralmost flanked anteriorly by 1-2 spinules, and a submedian row, converging posteriorly with apical spine of median

carina, comprising 2-3 low tubercles or spinules. Apical spine of median carina flanked ventrally by median spinule in some specimens. Dorsal carinae of submedian and intermediate teeth short, lateral carinae long. Denticles 4-5, 7-9, 1; inner submedian and outer intermediate rounded in 1 specimen, remainder spiniform. Ventral surface of telson with tubercles lateral to and short lines of tubercles posterior to anal pore.

Basal segment of uropod (Fig. 1e) with entire lateral carina; dorsal surface with 3 spinules on carina leading to distal spine. Proximal segment of uropodal exopod shorter than distal, with line of 1-5 fixed spines dorsally and row of 7-8 movable spines laterally, distalmost extending to or slightly beyond midlength of distal segment. Basal prolongation of uropod (Fig. 1g) with 2 rounded lobes between apical spines and 7-12 fixed spinules on inner margin.

Color pattern completely faded in all specimens.

Measurements: Males (2), total length 17-21 mm; only known female, total length 27 mm. Bigelow (1931: 181) gave other measurements of the male holotype. Other measurements of female, in mm: carapace length 5.1; cornea width 1.2; eyestalk width 1.1; eye length 1.8; antennular peduncle length 3.8; antennal scale length 1.4; rostral plate length 1.0, width 0.8; fifth abdominal somite width 5.3; telson length 3.4, width 4.3; uropod exopod lengths, proximal 1.4, distal 1.7.

Remarks: Bigelow (1931: 179) correctly pointed out the affinities of this species with *C. incerta* (Hansen, 1926). These two species, which are very similar in basic facies, are the only two species of *Clorida* which lack both the mandibular palp and the anterolateral spines of the carapace. *Clorida mauiana* differs from Hansen's species in having 2 rather than 4 epipods, 5 rather than 6 teeth on the claw, supplementary spinules on the posterior margin of the sixth abdominal somite, lower, less prominent carinae on the abdomen and telson, and dorsal spinules on the basal segment as well as on the proximal exopodal segment of the uropod.

These two species appear to be correctly assigned to *Clorida*, which may yet prove to include several groups of species which share morphological features but which developed them independently. Variation in the mandibular palp and the epipods is the exception rather than the rule in stomatopods. Few genera include species with as well as species without the palp, and, in few genera, is there variation in the number of epipods.

Clorida mauiana is only the second stomatopod to occur in both the Eastern Pacific and the Indo-West-Pacific regions. The other species, which is pantropical, is *Heterosquilla mccullochae* (Schmitt, 1940). Whether *C. mauiana* has become established in the Eastern Pacific, as well as its direction of migration, remain to be determined. The species has not been taken in numerous other collections from the Eastern Pacific made by the Hancock Foundation.

Although the type-locality of *C. mauiana* is the Hawaiian Islands,

the species was not included in a recent report on Hawaiian stomatopods (Townesley, 1953).

LITERATURE CITED

- BIGELOW, R. P. 1931. Stomatopoda of the southern and eastern Pacific Ocean and the Hawaiian Islands. Bull. Mus. Comp. Zool., Harvard 72(4):105-191, figs. 1-10, pls. 1-2.
- HANSEN, H. J. 1926. The Stomatopoda of the Siboga Expedition. Siboga Exped., Monogr. 35:1-48, pls. 1-2.
- MANNING, RAYMOND B. 1968a. A revision of the family Squillidae (Crustacea, Stomatopoda), with the description of eight new genera. Bull. Mar. Sci. 18(1):105-142, figs. 1-10.
- . 1968b. Stomatopod Crustacea from Madagascar. Proc. U.S. Nat. Mus. 124:1-61, figs. 1-16.
- . 1969. Stomatopod Crustacea of the western Atlantic. Stud. Trop. Oceanogr. Miami 8: viii + 380, figs. 1-91.
- TOWNESLEY, S. J. 1953. Adult and larval stomatopod crustaceans occurring in Hawaiian waters. Pacific Sci. 7(4):399-437, figs. 1-28.

